Liquidity Regulation, Money Markets and Monetary Policy Implementation

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Question

- How will liquidity regulation affect:
  - money markets (functioning, spreads, etc.), and
  - the implementation of monetary policy?
    - that is, central banks' ability to steer market rates to a desired target
- In a sense, this question is about side effects of regulation
- However …
  - thinking about how central banks should react to these effects
  - requires thinking about the objectives of liquidity regulation as well
- My aim: present a simple framework to organize discussion
  - raise some (difficult?) questions

Implementing monetary policy pre-2008

- Banks value holding reserves
  - need to satisfy reserve requirements, make payments, etc.
- To borrow reserves overnight, a bank is willing to pay:

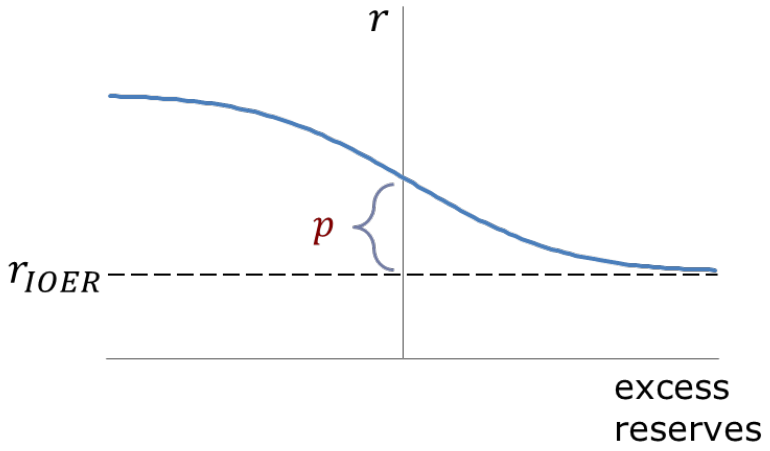
$$r = r_{IOER} + p$$

overnight rate

interest rate paid on excess reserves

"reserve premium" depends on how scarce/plentiful excess reserve are

- Central banks set a target for r
  - used frequent operations to change supply of excess reserves
  - which altered their scarcity value
  - and moved market rate to target



Term interbank rates

- For term interbank loans of any length T
- Then

$$r_T = r + s$$

r: expected overnight interest rate over term of the loan

s: term premium

- Key point:
  - by changing excess reserves and p (thus changing r) ...
  - the central bank moves all interest rates up/down

Liquidity regulation

- What changes when the LCR is introduced?
- Banks must satisfy:

$$LCR = \frac{\text{High Quality Liquid Assets } (HQLA)}{\text{Net Cash Outflows } (NCOF)} \geq 1$$

- Focus on *excess LCR liquidity*, that is: $HQLA - NCOF \geq 0$
  - LCR equivalent of “excess reserves”
  - note that overnight borrowing/lending has no effect
  - term borrowing raises it (and term lending lowers it)
- Term borrowing now brings two benefits:
  - bank receives reserves and improves its LCR position

Effect on market interest rates

- Overnight rate is unchanged as a function of excess reserves

$$r = r_{IOER} + p$$

← scarcity value of reserves (controlled by central bank)

- But the term interest rate has a new component

$$r_T = r + s + \hat{p}$$

← scarcity value of "LCR liquidity" (depends on many factors)

  - where $\hat{p}$ = value of term borrowing for LCR purposes

- Central bank can still move all interest rates up/down

- But … LCR introduces a new "wedge" in the monetary transmission mechanism

  - this wedge could potentially be large and variable over time

What should a central bank do?

1. A "passive" approach:
   - adjust target rate to offset changes in $\hat{p}$ as desired
   - similar to current practice when other spreads change

- But … what if $\hat{p}$ is large and/or variable?
  - may present communication problems
  - the zero/effective lower bound may bind more often

2. Central bank could instead aim to "actively" influence $\hat{p}$

- that is, operate on both overnight and term rates (p and $\hat{p}$)

(a) OMOs against non-HQLA assets

- perhaps like the ECB's Long-Term Refinancing Operations

(b) Term lending to banks (against non-HQLA collateral)

- like the Term Auction Facility or a term discount window

- However: these actions also create *reserves*
  - interaction between p and $\hat{p}$ can be intricate
  - controlling either r or r_T can become substantially more difficult (Bech and Keister, 2017)

- Other ways to influence the LCR premium:

(c) Introduce a term bond-lending facility

- rather than increasing reserves when banks face an LCR shortfall …
- offer to lend bonds (against non-HQLA collateral)
- like the TSLF or the Bank of England's Discount Window

(d) Operate a Committed Liquidity Facility (CLF)

- banks pre-arrange the right to borrow from the central bank (against collateral)
- effectively: selling LCR liquidity to banks for a fee
- could be arranged in different ways (see Nelson, 2016)

Three (critical) questions

(1) What level of $\hat{p}$ should the central bank aim for?

- presumably want the premium to be positive …
- … how can we determine the "right" level?

(2) What assets?

- accepting some non-HQLA and not others may affect the allocation of credit

(3) Does having the central bank "produce" LCR liquidity undermine the goals of liquidity regulation?

- is HLQA borrowed from the central bank equivalent to HQLA owned outright (or borrowed elsewhere)?
- underlying tension between monetary policy and financial stability?

References

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